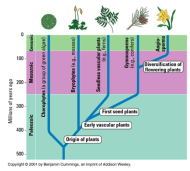
TOC#4

Plant Evolution Essay Rubric Name: _____

/2		☐ Title - Creative and Summarizes project		
/8	¶1 Introduction	☐ Introduce paper ☐ Phylogenetic tree		☐ Characteristics of plants 1.Chloroplasts 2.Cell wall 3.Photosynthesis ☐ Connection to the rest of the food web (food, O_2) ☐ Introduce plant phyla
10	¶2 Charophy	☐ Transition to ¶ ☐ Identify as green algae ☐ Not True plants - Ancestral Plants ☐ **Live in water -** Unless as lichen		☐Non Vascular ☐Effect on shape: Long and Skinny, Why? ☐Reproduction – Conjugation ☐ Spirogyra or Ulva - Discuss shape
10	¶3 Bryophytes	☐ Transition to ¶ ☐ Identify as moss ☐ Live on land ☐ Non Vascular ☐Effect on shape ☐ Phylid not Leaf, Rhizoid not Root - Why?		☐ How do they hold onto water? ☐**Reproduction – Spore** ☐ Spore Vs Seed ☐ Do they rely on water for reproduction? (Yes, why?)
10	¶4 Adapt 2 Land	☐ Transition to ¶ ☐ Major problem they need to deal with on land ☐ How do they hold water? Stomata + Cuticle		☐ How do they move water - Vascular Tissue (Xylem/Phloem) + Transpiration
10	¶5 Pterophytes	☐ Transition to ¶ ☐ Identify as Ferns ☐ Live on land ☐ **Vascular** ☐Effect on shape:		☐ NO Seed (spore instead) ☐ Sori ☐ Do they rely on water for reproduction?
10	¶6 Gymnosperms	☐ Transition to ¶ ☐ Identify as Conifers/Pine trees ☐ Live on land ☐ Vascular ☐Effect on shape: Can grow REALLY tall ☐ AMAZING VASCULARITY ☐ Why is it amazing?		☐ **Seed** ☐ What's the big deal? ☐ Pollen (structure and function) ☐ Do they rely on water for reproduction? ☐ What is the purpose of a **cone?** ☐ Connect the structure of a cone to a flower
10	¶7 Angiosperms	☐ Transition to ¶ ☐ Identify as Flowering Plants ☐ Live on land ☐ Vascular ☐Effect on shape: Can grow tall ☐ How do they move water		☐ Seed ☐ Do they rely on water for reproduction? Why/Why not? ☐ **Flower** ☐ Purpose ☐ 4 Characteristics of flowers ☐ how each of the 4 work
10	¶8 Conclusion	☐ Transition to ¶ ☐ Explain what evolution is, why and how organisms do it. ☐ Conclude about the evolution of plants ☐ A slow process = Takes many/small steps		☐ Define and include: **1) Derived 2) Ancestral, 3) Evolution,** **4) Adaptation, 5) Natural Selection**
10	Overall	☐ Format/Layout ☐ Grammar ☐ Use of vocabulary		☐ Flow from ¶ to ¶ and throughout paper ☐ Effort ☐ Double Spaced and Double sided print out
10	The last 10%	☐ Going above and beyond the rubric: What story did you track:_____ ☐ Integrated into every ¶		

Score _____/100